

MINUTES OF THE 218th MEETING OF THE
WATER MANAGEMENT BOARD
LEGISLATIVE RESEARCH COUNCIL ROOM 414
STATE CAPITOL
500 EAST CAPITOL AVENUE
PIERRE, SOUTH DAKOTA
OCTOBER 29-31, 2019

CALL TO ORDER: Chairman Hutmacher called the meeting to order at 8:31AM central daylight time. Julie Smith conducted a roll call vote of board members.

WATER MANAGEMENT BOARD MEMBERS PRESENT: Peggy Dixon, Everett Hoyt, Tim Bjork, Leo Holzbauer, Rodney Freeman and Jim Hutmacher. Chad Comes was unable to attend. A quorum was present.

Chairman Hutmacher announced that the meeting was streaming live on SD.net, a service of South Dakota Public Broadcasting.

The following attended the meeting.

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES (DENR): Hunter Roberts, Jeanne Goodman, Eric Gronlund, Ron Duvall, Vickie Maberry, Karen Schlaak, Adam Mathiowetz, Whitney Kilts, John Farmer with the Water Rights Program; Julie Smith with the Drinking Water Program.

ATTORNEY GENERAL'S OFFICE: Ann Mines Bailey, Water Rights Program Counsel and David McVey, Board Counsel.

LEGISLATIVE OVERSIGHT COMMITTEE: Representative Mary Duvall

OTHERS:

In the matter of the TransCanada applications (spelling of names is a best effort from interpreting the sign-in sheet)

Elizabeth Lone Eagle, petitioner
Zora Lone Eagle, petitioner
Merle John Lone Eagle petitioner
Tatanka Lone Eagle, petitioner
Jennifer Baker, counsel for Yankton Sioux Tribe
Rebecca Kidder, counsel for Yankton Sioux Tribe
Cindy Myers, petitioner
Mahmud Fitol, petitioner
Jason Shald, petitioner
Tracey Zephier, Attorney General, Cheyenne River Sioux Tribe
Bruce Ellison, Counsel for Dakota Rural Action
John Taylor, Counsel for TransCanada Keystone Pipeline
James Moore, Counsel for TransCanada Keystone Pipeline

Water Management Board
October 29 - 31 2019, Meeting Minutes

William Taylor, Counsel for TransCanada Keystone Pipeline
Jung-Hoe Hopgood
Greg Tencer
Matt Naasz, Counsel for Tom & Lori Wilson and Wink Cattle Company
Bob Mercer, reporter
Peter Capossela, Counsel for Great Plains Tribal Water Alliance
Rebecca Terk
Jim Aamot
Teryl Cruse
Matt Maher
Faith Spotted Eagle
Kip Spotted Eagle
Jon Schmidt
Mike Novotny, Counsel for Cheyenne River Sioux Tribe
U ElkLooke Bade
Clad Elk
Loren Locher
Paula Sutoure
Joseph Robertson
Michael Walters
Annita Lucchesi
Elizabeth Wakoman
HaVae Red Horse
Joe Brings Plenty
Julie Santella
Reinigu Beck
Steve Vance
Kate Finn
Jeff Short
Reno Redcloud
Rose Stenstrong
Jasu Water
Syed Huq
Sara Rabern
Pat Handlin
Amber Knutson
Joni Brings Plenty
Belle Brings Plenty
James Ehler
Reno L RedCloud
Frenmot Fallis
Bryce In The Woods
Joseph White Eyes
Kaidynse Edwards
Daniel Grassage

Tasina Smith
Fortatine Everley
Kinyan Smith
Alex Good Cane Milk
Tim Mertzy Sr.
Richard
Pierc
Phyllis Young
Shannon Grey Bear
Senator Troy Heinert
Ben Rhold
Lloyd Guy
Tonia Stands
Oscar High Elk
Jeremiah Lee Boule
Jasilyn Clyne
Fontine Cugley
Danielle D Vig
Noah Clown
Ryman LeBeau

ADOPT FINAL AGENDA FOR OCTOBER 29 - 31, 2019:

Motion by Rodney Freeman, second by Tim Bjork, to amend agenda to include Order issued on TransCanada regarding Elizabeth Lone Eagle. Motion carried unanimously by roll call vote.

Tim Bjork stated there is a typographical error in the final order listed to consider approval. The application number should be No. 1975A-1 instead of 1963A-1.

CONFLICTS DISCLOSURES AND REQUEST FOR STATE BOARD WAIVERS: None

APPROVAL OF BOARD MINUTES FOR September 11, 2019:

Motion by Rodney Freeman, second by Tim Bjork to approve the minutes. Motion carried unanimously by roll call vote. Mr. Hoyt abstained as he was not present.

APPROVAL OF BOARD MINUTES FOR October 3-4, 2019:

Motion by Rodney Freeman, second by Ev Hoyt to approve the minutes. Motion carried unanimously by roll call vote.

SET DECEMBER 4-5 MEETING DATE AND LOCATION:

Chairman Hutmacher set Tuesday, December 3rd for the next board meeting. The potential next meeting for the TransCanada would be discussed at end of this meeting.

ADMINISTER OATH TO DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES STAFF: Carla Bachand, the court reporter, administered the oath to the DENR employees who intended to testify.

PUBLIC COMMENT PERIOD IN ACCORDANCE WITH SDCL 1-25-1: None

CONSIDER APPROVAL OF PREHEARING OFFICERS ORDERS AND ISSUED MOTIONS:

- Elizabeth Lone Eagle's Motion to Schedule Witnesses
- MniWakan Nakicijinpi's Motion to Schedule Witnesses
- Dakota Rural Action's Motion to Compel Discovery from Chief Engineer
- Dakota Rural Action's Motion to Compel Discovery from Tom and Lori Wilson
- Dakota Rural Action's Motion to Compel Discovery from Wink Cattle Company
- Chief Engineer's Motion in Limine - TransCanada Keystone Pipeline applications
- Chief Engineer's Motion in Limine - Application No. 1963A-1, Tom and Lori Wilson
- Chief Engineer's Motion in Limine – Application No. 1975A-1, Wink Cattle Company
- TransCanada's Motion to Streamline Witness Testimony and Confirm Deadline to Complete Evidentiary Hearing – Application Nos. 1986-1, 2792-2 and 2793-2
- Dakota Rural Action's Motion for Subpoenas Duces Tecum to the Chief Engineer – Application Nos. 1986-1, 2792-2 and 2793-2
- Yankton Sioux Tribe's Motion for Time Certain for Witness Testimony – Application No. 1963A-1
- Yankton Sioux Tribe's Motion for Time Certain for Witness Testimony – Application No. 1975A-1

Motion by Ev Hoyt, second by Peggy Dixon to adopt the orders by the Prehearing Chairman Rodney Freeman as listed in the agenda with the addition of the action and order concerning the TransCanada's motion on Elizabeth Lone Eagle issued on October 2, 2019. Motion carried unanimously by roll call vote.

CONTINUE WITH WITNESS AND TESTIMONY REGARDING:

- Water Permit Application No. 1986-1, TransCanada Keystone Pipeline LP
- Water Permit Application No. 2792-2, TransCanada Keystone Pipeline LP
- Water Permit Application No. 2793-2, TransCanada Keystone Pipeline LP

David McVey, Board Counsel made a statement from SDCL 1-26-19, regarding the rules of evidence and contested cases. The Board wants to make clear that irrelevant, incompetent, immaterial or unduly repetitious evidence shall be excluded.

Rebecca Kidder indicated she was present representing Yankton Sioux Tribe and is joined by Jennifer Baker as co-counsel.

Mike Novotny on behalf of Cheyenne River Sioux Tribe spoke regarding the Wilson application and the motion in limine limiting the tribe's ability to call witnesses. Chairman Hutmacher indicated that the Wilson application will be brought up after the TransCanada application's testimony.

Bill Taylor, counsel for TransCanada Keystone Pipeline, call Jung-Hoe Hopgood to testify.

Court Reporter Carla Bachand administered the oath to Mr. Hopgood.

Mr. Taylor indicated he planned to qualify Mr. Hopgood on the TransCanada applications and the Wilson and Wink applications. Chairman Hutmacher said they can qualify him for all applications, but testimony will have to be for each application individually.

Mr. Hopgood indicated he was employed by EXP consulting firm located in Tallahassee Florida. Mr. Hopgood has a degree in environmental engineering degree and has a professional engineering license with a master's degree in business administration. He has worked in hydrology and wastewater systems for 10 years and has been employed by EXP since 2009. With EXP he has worked on hydrology and hydraulic analysis and this is his first experience testifying.

Mr. Hopgood stated Exhibit R is his resume. Mr. Taylor offered Exhibit R. Chairman Hutmacher accepted Exhibit R into the record.

Mr. Hopgood stated he was asked by TransCanada to analyze the flows of the water sources that are part of TransCanada's applications to use surface water. Looking at streamflow gaging stations and maps allowed him to delineate areas of the streams. He used DENR's website to determine water rights in existence below the proposed diversion points.

Mr. Hopgood stated he relied upon the USGS gaging station information. Mr. Hopgood stated he was present and listened to Mark Rath's testimony. He also reviewed the Chief Engineer's recommendation. Mr. Hopgood used a standard process to review the flow data to determine if water is available for appropriation. He has previously conducted studies of this type regarding analysis of expected flows. Mr. Taylor offered Mr. Hopgood as an expert.

Peter Caposella, counsel for Great Plains Tribal Water Alliance objects to Mr. Hopgood being qualified as he does not have a teaching background or publications which is common to be qualified as an expert. Chairman Hutmacher overruled the objection.

Bruce Ellison, counsel for Dakota Rural Action questioned where Mr. Hopgood was a professional engineer. Mr. Hopgood stated is a professional engineer in Florida, Texas and Alberta. Mr. Ellison stated he is not a professional engineer in South Dakota and objects to him being qualified as an expert. Chairman Hutmacher overruled the objection.

Ms. Kidder on behalf of Yankton Sioux Tribe stated Mr. Hopgood is not qualified to speak to tribal water rights. Chairman Hutmacher overruled the objection and qualified him as an expert.

Mr. Hopgood stated he reviewed the water sources on all three water permit applications. Mr. Hopgood stated he would be speaking in terms of withdrawal location and not in terms of appropriation.

Mr. Ellison objects since parties were not provided a copy of Mr. Hopgood's report from August. Mr. Taylor stated the procedural order did not require a report to be prepared or provided. No party requested a copy of the report. Mr. Hopgood prepared the document as part of his review of the applications. Mr. Taylor stated TransCanada does not intend to offer the report. Chairman Hutmacher overruled the objection. Yankton Sioux Tribe and Great Plains Tribal Water Alliance wanted their objection noted for the record.

With respect to the Cheyenne River application, Mr. Hopgood stated he downloaded USGS gaging information from the station near Plainview which is downstream of the proposed diversion point.

Yankton Sioux Tribe and Great Plains Tribal Water Alliance objected since they did not have a copy of Mr. Hopgood's notes. Mr. Ellison wanted to be provided a copy of Mr. Hopgood's notes. Chairman Hutmacher overruled the objections.

Mr. Hopgood stated he looked at the 15-minute intervals and the averages collected at the gaging station. He looked at both methods to insure he was comfortable that it was reliable data. All the information is available from the internet.

Regarding DENR's Exhibit 6, Mr. Hopgood stated that exhibits show the gaging station near Plainview. Based on the data he reviewed flows and summarized the historical records. In regard to DENR's Exhibit 7, Mr. Hopgood stated the exhibit is a hydrograph of daily median flows for the 50, 25 and 10 daily flow percentiles.

Mr. Hopgood stated he looked at terrain maps and digital models to determine whether water flowing at a location would be within the drainage representative of flows at the downstream gaging station. Mr. Hopgood stated 21,350 square miles are located above the Plainview gages and only 200 square miles are not available at proposed diversion point. Ninety nine percent of flow at the diversion point is represented by the Plainview gage.

Dakota Rural Action and Yankton Sioux Tribe objected because they were not able to view the terrain maps. Mr. Taylor indicated that Mr. Hopgood was disclosed and no one filed an interrogatory requesting further information. Chairman Hutmacher overruled the objection.

Mr. Caposella stated they did not request interrogatories because the order required disclosure of report by August 30th.

Mrs. Lone Eagle stated they had no clue they could submit interrogatories or even do depositions of witnesses. She asked for a more level playing field for pro se intervenors.

Mr. Hopgood testified he looked at downstream water right holders and their quantifications. Regarding DENR Exhibit 10, Mr. Hopgood stated it represents the water right appropriations over a period of time and the amount that have been historically pumped. Mr. Hopgood stated his analysis came up with slightly more than Mr. Rath analysis, but Mr. Rath corrected his testimony on October 3rd to account for the difference. Mr. Hopgood agrees with Mr. Rath's corrected amount of appropriations.

Mr. Caposella, Yankton Sioux Tribe and Mrs. Lone Eagle have a standing objection to this testimony in that they have not been provided the reports or map. Chairman Hutmacher noted the objection to the record.

Mr. Hopgood stated he presented data in percentage of flows anticipated at the withdrawal location. He determined that the 6.68 cfs requested 5% of the time (238-acre foot annual volume) would be 2 % of median flow. Based on his review of the Cheyenne River application, Mr. Hopgood testified there is a reasonable probability that water is available and that downstream rights will not be impaired.

Mr. Caposella with Great Plains Tribal Water Alliance cross examines Mr. Hopgood.

Mr. Hopgood stated his firm does consulting engineering, transportation studies and energy. They commonly work with pipeline companies. The firm has worked on other TransCanada projects in other areas but he did not know specifically the number of projects. Mr. Hopgood testified baseflow is flow expected during drier periods, but he did not know that number for the Cheyenne River.

Mr. Hopgood did not look at water quality data as part of his review. He flew over the river to do a visual inspection of the area. The Plainview gage is approximately seven miles downstream of the Cheyenne River diversion point. Mr. Caposella asked whether a closer gaging station would paint a more accurate reflection of flow. Mr. Hopgood stated it depends on the reliability of site and period of record. Mr. Caposella asked whether the past ten years would provide a better record for use in this case. Mr. Hopgood stated it is possible.

Mr. Hopgood testified he was not certain what periods of the year TransCanada will divert water. Flows in the river do fluctuate depending on the time the year. Mr. Hopgood testified he has not done similar analysis on other streams in South Dakota, North Dakota or Nebraska. Mr. Hopgood is not aware of any water quality parameters that the Cheyenne River is not meeting.

Ms. Kidder representing the Yankton Sioux Tribe cross examines Mr. Hopgood.

Ms. Kidder questioned Mr. Hopgood regarding his qualifications. Mr. Hopgood stated he is salaried with the company and his best guess is he worked 100 to 200 hours on this analysis. Ms. Kidder asked the hourly rate he is paid. Mr. Taylor objected that it not relevant. Chairman Hutmacher sustained the objection.

Mr. Hopgood stated he did not know what the company charges for an hourly rate. Mr. Hopgood stated he has not testified on behalf of TransCanada or another client before.

Mr. Hopgood stated a hydrotechnical assessment does deal with water availability in that it includes water availability. Mr. Hopgood stated he has made similar assessments about a dozen times, none of them in South Dakota.

Ms. Kidder asked about whether he has ever analyzed tribal treaty rights to water. Mr. Hopgood stated he has not. He briefly reviewed the Winter Doctrine but for the most part has not dealt with treaty rights. He did not look at any tribal rights in South Dakota nor does he know the number of tribes in South Dakota. Mr. Hopgood stated he did not review water uses by tribal communities in South Dakota.

Ms. Kidder asked about DENR Exhibit 5 which has not yet been offered into evidence. Ms. Kidder offers Exhibit No. 5 into evidence. No stance was taken regarding the exhibit by Chairman Hutmacher.

Mr. Hopgood did not review any water permits or appropriation for water intakes on the Missouri River. Regarding the Cheyenne River, he did review downstream water rights from the diversion point to the Missouri River.

Mr. Hopgood stated he relied on digital information from Earth Explorer. The data points are provided by the inputter in conducting the analysis. The data points included South Dakota and Wyoming. To replicate his analysis a person would need gaging flow data. Mr. Hopgood indicated he reviewed Corps of Engineer's studies on the Missouri River but did not rely on those studies regarding his testimony today.

Mr. Hopgood indicated he used median flows aggregating those records into monthly data as part of his review. He looked at data from 2006 to present to get a sense of reliability of data. He did not look specifically for drought periods. He looked at the median at 50, 25 and 10 daily flow percentiles. He did not look at impacts when flow is below the 10-percentile level on the Cheyenne River.

Mr. Hopgood stated he is only a little bit aware of mined tailings in the Cheyenne River. Mr. Hopgood is not aware of how withdraws of water may impact ice flows. He did not look at erosion issues or how that may impact cultural sites. He is not aware of what the subsistence water needs are for the tribe.

Mr. Hopgood further stated he did not review and analyze potential alternative water sources for construction of the pipeline.

Mrs. Lone Eagle cross examines Mr. Hopgood.

When he conducted the fly over, Mr. Hopgood stated they were approximately 200 feet above the ground. Mrs. Lone Eagle showed a map for reference called ELE 1. Mr. Hopgood stated he did not go east of the highway bridge shown on the map. Mr. Hopgood stated that based on this map, which does not have a scale, he does not know what distance the gaging station is downstream of the proposed diversion point.

Regarding tribal water rights, Mr. Hopgood stated he did a cursory review of tribal rights and the Winter's Doctrine. He stated that he became aware of tribal rights from Mark Rath's testimony which caused him to do further research. His employer does not get involved in tribal water rights issues. In his review in the area of the diversion point he did not visually see any other water intakes or users.

Mr. Ellison on behalf of Dakota Rural Action cross examined Mr. Hopgood.

Mr. Hopgood stated his company EXP was previously called Trow. Mr. Ellison requested Mr. Hopgood to call his employer over the lunch break to get the number of hours he worked on the review of this application. Mr. Hopgood stated he would try but did not think they could turn that information on short notice.

Mr. Hopgood started working on the KXL project in about 2009, but that was not specific to this application. Mr. Hopgood stated he has conducted studies for other entities on water issues. Mr. Hopgood stated from his resume "earned value management" tracks projects to complete and measures how well you meet those objectives.

Mr. Hopgood stated there are a number of rivers crossed by the proposed pipeline including the Cheyenne River, White River and Little Missouri River. He did not rely on testimony from the prior Public Utilities Commission hearing in 2010. In this case, he did his own independent review of the application. He is aware of the perennial, intermittent and ephemeral streams that will be crossed as part of this project. Mr. Hopgood agreed that the Missouri River is a major water course.

Recess at 11:58 AM
Reconvene at 1:03 PM

In answer to a previous question from Mr. Ellison, Mr. Hopgood stated he spent 138 hours in development of report and 123 hours in preparation for hearing. The company rate charged is about \$140 an hour.

Mr. Hopgood made representations based on the data. The data was in averages but from that he compiled the data into median values for the daily flow percentiles. The mean is affected or skewed by unusual events, so the median is better to use for the analysis. Mr. Hopgood stated he

cannot with certainty, predict next year's flow. Regarding the crossing on waterbodies, EXP does hydrologic and geotechnical assessments for TransCanada.

Mr. Ellison asks that TransCanada's Exhibit 7 be brought forth. It is labeled DRA Exhibit 314 (it was previously marked TransCanada Exhibit G). Mr. Ellison offered DRA Exhibit 314. Chairman Hutmacher accepts Exhibit 314 into the record.

During the flyover, Mr. Hopgood stated he could see the terrain and changes in types of soil. The flyover occurred in the spring. Mr. Hopgood did not quantify the extreme climate conditions that have occurred over the last ten years, but his analysis does take that into account by using the flow data that includes those periods. His analysis takes into account high and low flow events. In order to evaluate the basin, he delineated the upstream drainage area that includes some of the tributaries.

Mr. Ellison presented Exhibit 315 which is a map which shows downstream area of tributaries coming into the Cheyenne River. Mr. Ellison offered admission of Exhibit 315. Chairman Hutmacher admitted Exhibit 315 into evidence.

Mr. Hopgood stated that 99% of the flow at the USGS Plainview gage is observed at the diversion point proposed by the Cheyenne River gage. Mr. Hopgood stated he did not use the gaging stations upstream of the proposed diversion point.

Mr. Hopgood stated that horizontal directional drilling and open trench are methods of constructing a pipeline across a stream. Mr. Hopgood did not do a horizontal directional drilling assessment for this project and is not aware of the staff person that did that assessment. He did not agree with Mr. Ellison's statement that there is a certain amount of waste sediments that goes into the watercourse during horizontal directional drilling.

Mr. Hopgood indicated he has done assessments on crossing on streams that are encountered on this project. He did site visits on a number of crossing encountered in the field. He looks at soils and terrain in making an assessment.

Mr. Ellison stated water is used for making drilling mud for horizontal directional drilling. Bentonite is commonly used for making drilling mud. Mr. Ellison questioned if Mr. Hopgood thought none of this drilling mud will enter the water course and would the quality of the water effect downstream users such as irrigators. Mr. Taylor objected based on the grounds this is about quantity and not quality. There are other jurisdictions involved with water quality. Mr. Ellison encourages the assessment of the impact on everything involved in construction. This is a detriment to downstream users. Mr. Ellison stated there is a natural existing right for the fish and wildlife that must be protected. Chairman Hutmacher sustained the objection and asked Mr. Ellison to move on.

Mr. Hopgood's review focused on the availability of water. Mr. Hopgood did not agree that bentonite is an unstable material. Mr. Hopgood did not know how many horizontal directional drilling locations but there are very many overall. Mr. Ellison commented that horizontal

directional drilling is intended to limit potential pollution to the water source. Trench cutting crossing are approximately five feet deep and there is a potential for scouring to occur.

Mr. Hopgood was aware that TransCanada asked for a very specific quantity of water. Mr. Hopgood testified he does not know the distance from the diversion point on the Cheyenne River to the Missouri River. He did not do an analysis of how long it would take for a pollution event to reach the Missouri River. Mr. Hopgood was not aware that TransCanada was looking at alternative water sources.

Mr. Ellison stated there are periods of low flow on the Cheyenne River. Looking at Exhibit 7, Mr. Hopgood does not know what the future flows may be in the river. There may be times of the year when the flows are not sufficient. However, they use the data available to provide a representation of what to expect to make a reasonable decision if water is available. The Board addresses what occurs during periods of low flow with the conditions proposed in the recommendation.

Mr. Hopgood does not know who will monitor the flow conditions. A gage if required right below the diversion points should be operated by a government agency to insure reliability.

Regarding Exhibit 10, Mr. Ellison stated the blue represents current allocations. They show substantially more water allocated than what is being used based on reporting. Mr. Hopgood stated there is an abundance of water when looking a flow data and comparing water currently be reported as being used. Even under the 10th daily percentile flow there is water available for existing uses and the proposed diversion under this application.

Mr. Ellison provided Mr. Hopgood the application filed by TransCanada for the Cheyenne River. Mr. Ellison directed him to page 5 regarding volumes of water intended for diversion in 2019 and 2020. Mr. Hopgood stated Exhibit 316 is a copy of page 5 of the application. Mr. Ellison offered Exhibit 316 which Chairman Hutmacher accepted into the record.

Mr. Ellison stated the total water use 2019 listed was 215.41 acre feet. The water use for 2020 is listed at 22.79 acre feet of water. Mr. Hopgood stated the amount recommended for approval is 238.21 acre feet. Mr. Hopgood concurred that is twice the requested amount.

Jason Shald cross examines Mr. Hopgood.

Mr. Hopgood stated his expertise is to estimate water available and potential impairment of water rights. Mr. Hopgood stated water is H₂O coming in the form of snow melt and flow in rivers. There are seasonal variations on water availability in the river. Lowest flows occur in December and January in an ordinary year. Generally during low flow conditions there is 75 cfs under 25th percentile and 100 cfs under the 50th percentile. Mr. Hopgood did not identify periods when water would not be available. Using the 10th percentile there is still adequate water for existing diversions and this application. There were 5 times in the 50 years used in the evaluation, when water availability could come into question.

Mr. Hopgood is not aware how many days he has spent on the Cheyenne River. He further testified in response to a question that stream gaging station records are more reliable than personal reporting by individuals which is anecdotal information.

Mahmud Fitol cross examines Mr. Hopgood.

Mr. Hopgood stated based on the flows he analyzed on the Cheyenne River, he does not see a need to put restrictions on times when diversions are limited. He stated there is water available for the proposed diversions. He did not consider tribal or rights and was not able to access any tribal uses of water. His fly over was by helicopter but that is only part of what was involved in his evaluation. He believes the existing gage sites are adequate to assess and monitor this application.

Mr. Taylor conducts redirect examination of Mr. Hopgood.

Mr. Taylor referred Mr. Hopgood to DRA Exhibit 315 which is the terrain map. Mr. Hopgood stated he used digital elevation model to ascertain where drainages are located. This map serves to visualize the tributary network in relationship to the gaging station. The purpose of map was to show complex nature of drainage lines in relation to gaging station and point of diversion.

Mr. Hopgood stated he understands a domestic use is the highest priority use for livestock. Ms. Kidder objected that this is a legal definition of domestic use. Chairman Hutmacher sustained the objected.

Mr. Hopgood stated there is not a record of domestic use in this area to his knowledge or at least he did not quantify them.

Ms. Kidder conducted redirect examination of Mr. Hopgood.

Mr. Hopgood stated Exhibit 315 is to provide a graphical representation of data. The data was not provided to anyone as it is publicly available. He is not able identify whether the drainage in the northern section reaches into North Dakota. The map does not show the Missouri River or any water intakes on the Missouri River. Mr. Hopgood has not researched the legal definition of the term of domestic use in South Dakota.

Ms. Baker on behalf of Yankton Sioux Tribe calls Kip Spotted Eagle.

The court reporter administers the oath to Mr. Spotted Eagle. Mr. Spotted Eagle stated he has worked for Yankton Sioux Tribe as a historic preservation officer since October 2016. He graduated with a specialty in the American Indian preservation area and has worked 10 years without cultural surveys. His duties involved historically preservation on tribal properties. He also has the ability to request or review issues outside the tribal boundaries.

Mr. Spotted Eagle stated these applications will determine whether the pipeline will be built which is potentially through treaty properties. He has concerns with the applications and

therefore the tribe is opposed to the applications for this water use because of effects to the tribe's resources. He does not think this will be a beneficial use or in the public interest. He believes as conservator they will not be able to exercise traditional hunting. The maps show viable arteries to the rivers which were major routes people use so there is a high concentration of cultural resources along the pipeline path.

Mr. Spotted Eagle stated he is aware of cultural resources surveys by TransCanada beginning in 2009 but he is not aware that there was tribal presence during the cultural surveys. This is a must to insure there are no tribal concerns from a cultural perspective. Tribal entities were not invited to participate on the pipeline route surveys. The tribes need to have a bigger presence. A survey may not reveal what is encountered when the pipeline is being constructed.

Mr. Spotted Eagle stated he was not aware of adequate protections of cultural resources that will be in place during construction of the pipeline. Mr. Taylor requested a standing objection to the questioning.

Mr. Spotted Eagle stated the tribe does not have signature in the programmatic agreement that is to be in place when construction occurs. The US State Department did not consult on the project to the tribe's satisfaction with meaningful consultation. Federal entities should fall in line with tribal protocol's for consultation.

Ms. Baker offered a report that the tribe participated with the General Accounting Office on tribal consultation. Ms. Baker stated this is Exhibit 122. Ms. Mines Bailey renews objection that this exhibit was not properly disclosed. Ms. Baker said that providing a link meet the definition of providing disclosure of an exhibit.

Mr. Taylor objected based on relevancy. Ms. Baker stated this speaks to public interest issues and is willing to lay foundation if necessary. Ms. Baker stated this demonstrates the public consultation is inadequate. Mr. Taylor stated this is clearly heresay testimony. Mr. Caposella stated public records are exempted from heresay requirements. Chairman Hutmacher allowed the exhibit but indicated the Board will give it the weight they believe it deserves.

Mr. Spotted Eagle stated the tribe's experienced problems with the consultation process during the Keystone project. Mr. Taylor objects that the question lacks the time and place of the problem. Mr. Spotted Eagle stated many of the issues in the General Accounting Office report were encountered on this Keystone project. Many time studies relied on were by archeologists that were not trained on tribal issues.

Mr. Spotted Eagle stated the tribe is concerned that the total effect is not analyzed on what will happen to the area. The tribe has concerns that there are tremendous impacts because the intake will remove water decreasing the instream flow and may expose cultural resources that are currently inundated. The use may also cause additional erosion which will expose cultural resources. Mr. Spotted Eagle is a father and when he looks at pipelines and instream flows being reduced, he worries about the effects on impacts on the future generation that will come after him.

Mr. Caposella cross examines Mr. Spotted Eagle.

Mr. Spotted Eagle stated he did not agree with the sentence in TransCanada's application regarding the tribal cultural resource's property survey because he feels it was done by a non-tribal entity. He is familiar with the points of diversions proposed and they are in culturally sensitive areas.

Mrs. Lone Eagle cross examines Mr. Spotted Eagle.

Mr. Spotted Eagle stated the project will use water that will can affect active cultural sites. There are active pilgrimages such as the Big Foot Memorial Ride.

Mr. Taylor cross examines Mr. Spotted Eagle.

Mr. Spotted Eagle is the THPO (Tribal Historic Preservation Officer) for the tribe. There is a state historic preservation officer and the tribal historic preservation officer. The Yankton Sioux Tribe reservation is the southeastern part of the state. Yankton tribe is east of the Missouri River. He did not know the distance from the tribal boundary to the nearest point along the pipeline route but estimates it to be 70 miles. Mr. Spotted Eagle does not believe the courts define his belief of his tribal boundaries. He does not know if the courts have defined the tradition boundaries as to where ever the Sioux language is spoken.

Mr. Spotted Eagle was not the tribal preservation officer in 2009. The programmatic agreement is between the government and tribe regarding participation in a project. He did not participate in the programmatic agreement regarding the Keystone project.

Mr. Spotted Eagle stated he can view the base cultural surveys that were performed. He looked at them but cannot remember when. He has monitored the White River diversion point. He has seen on the map where the horizontal direction drilling location is at and has personally been close to the site.

Mr. Taylor asked whether the appropriation affects the cultural artifacts at a site. Mr. Spotted Eagle states cultural artifacts do not affect the flow in the river but the river itself is a cultural site.

Ms. Kidder conducted redirect of Mr. Spotted Eagle.

Mr. Spotted Eagle testified that the preservation act goes beyond the boundaries of a tribe. The sources are within the aboriginal boundaries of the Indian nations - the seven bands of the Lakota people. Cultural resources along any of the water sources are important to all tribes. Cultural resources include water, medicines, geology, animals and geographical locations. All ceremonies require water so is a major cultural resource. Water quality is part of the ceremonies

for spiritual purposes. The concern is about what type of contamination may come up when the intakes are used, such as mine tailings.

Destruction of cultural resources impacts the people. There needs to be a shift in the paradigm. Destruction of a genesis site destroys their existence as a people. Nothing in the programmatic agreement involves what happens if a site is destroyed. Burial sites are protected cultural sites.

Mr. Spotted Eagle stated there are tribal nations downstream of the proposed Cheyenne River diversion. The tribes are required to report their use to the Corps of Engineers. Subsistence uses of water by the tribe are not required to report to the state of South Dakota.

Recess for the day at 5:04 PM.

Chairman Hutmacher reconvened the meeting at 8:31AM on Wednesday, October 30, 2019,

Chairman Hutmacher called for appearances.

Ann Mines Bailey – on behalf of the Chief Engineer
William Taylor, James Moore, John Taylor and Matt Maher – on behalf of TransCanada
Keystone Pipeline
Bruce Ellison – on behalf of Dakota Rural Action
Matt Naasz – on behalf of Tom & Lori Wilson and Wink Cattle Company
Jennifer Baker and Rebecca Kidder – on behalf of Yankton Sioux Tribe
Peter Caposella – on behalf of Rosebud Sioux Tribe and Great Plains Tribal Water Alliance

Elizabeth Lone Eagle calls Joseph Brings Plenty.

The court reporter administered the oath to Mr. Brings Plenty. Mr. Brings Plenty stated he is a traditional chief of the Cheyenne River Sioux Tribe, born on the reservation. He has been a civil servant and was elected tribal chief. In 2007, he was made a traditional chief. He is a descendent of survivors of the Wounded Knee massacre. He has a responsibility to watch out after his people including future generations. He is familiar with the Bridger area by the Cheyenne River. Historically, it is near where Spotted Elk (Big Foot) had a camp. This is a place of significant history to the people going back to their creation stories. Mr. Brings Plenty told a story that they came from the stars.

Mr. Taylor put forth a standing objection that testimony on the completed pipeline is not relevant. Chapter 46 of the codified law deals with the water appropriation and not about the completed pipeline, climate change and cultural resources. The question today is about the water availability under 46-2A-9. Chairman Hutmacher did not allow a standing objection.

Mr. Brings Plenty state he is the founder of the survivor run. The run is to recognize the past and provide elders an opportunity to share stories with the young people. The survivor run has been in place for seven years. It is to educate people and provide healing.

Mr. Brings Plenty stated when he was a child he could drink out of the ground. If they do not have water, they will die. We need to respect water. There is water from the Black Hills that can no longer be used due to mining. They have got warnings not to swim in the water or eat fish from the river. Families use deer during winter and in fish in the spring to sustain themselves.

Mrs. Lone Eagle offers Exhibit ELE 1 and ELE 1A which are maps. The maps are the area of the pilgrimage route. Chairman Hutmacher did not admit the exhibits but stated they can be used for display purposes. The blue dot on ELE 1 is the Bridger area. The pilgrimage is from north of the blue dot which is Takini. The Big Foot ride and survivor runs include the area on the maps. The water is part of the prayers and ceremonies. If the water dries up, they can no longer conduct their ceremonies. This last year they noticed more traffic in the area. They believed some were surveying for the pipeline construction.

Mr. Brings Plenty is a lieutenant for law enforcement with the tribe. In one instance a game warden approached an individual that admitted being with the pipeline. As a police officer, Mr. Brings Plenty is aware of the law on the reservation. He understands that tribal council opposed the pipeline and there is a resolution regarding TransCanada. Pipeline employees are not to be within the reservation boundaries.

Thus far people have been respectful of their ceremonies. But there are concerns about what the future holds. The historic lands are all still Lakota land and were never given away. Anything that happens to mother earth affects them and the future generations. Mr. Brings Plenty believes the Keystone pipeline will have an effect on their ability to perform their ceremonies. They need to take care of what they have for ourselves and future generations.

Ms. Kidder had cross examined Mr. Brings Plenty.

Mr. Brings Plenty is aware of the boundaries of the current day reservation. He is a lieutenant for the police force. He has not had contact with anyone surveying for the pipeline. He has taken a police report on surveying for the pipeline that included a white TC truck on the reservation. Mr. Taylor objects to the fact the witness is providing hearsay testimony. Mr. Taylor withdrew his objection.

Ms. Kidder showed Exhibit 6 and requested Mr. Brings Plenty to point to the area which is the present day reservation which is Ziebach and Dewey Counties. The proposed point of diversion is right on the border of the reservation. He indicated where the pilgrimage rides occur. Mr. Brings Plenty marked the route of the pilgrimages and the survivor's run on the map. Ms. Kidder requests admission of the map as YST Exhibit 131. Chairman Hutmacher accepted the exhibit into the record.

Mr. Ellison cross examined Mr. Brings Plenty.

Mr. Brings Plenty stated there is a concern on what this pipeline may bring to future generations. If there was an overuse of the water it could affect the river and the vegetation, wildlife and

people along the river. Cattle operators may be affected by lack of water. Low flow periods affect the waterways and tributaries going into the river and the vegetation along the river. The trees used for their ceremonies die when the river is low.

Cindy Myers cross examines Mr. Brings Plenty.

Mr. Brings Plenty stated in his opinion if resources are used for anything but human consumption, it should not be done. The river is a living being.

Mrs. Lone Eagle conducted redirect of Mr. Brings Plenty.

Regarding YST Exhibit 131, Mr. Brings Plenty stated the route marked is the survivor run. The Big Foot run does take cross-country routes.

Mrs. Lone Eagle called Mrs. Red Horse.

The court reporter administered the oath to Mrs. Red Horse. Mrs. Red Horse stated she lives in Bridger. She is the bookkeeper for the 911 center on the reservation. Since 2008, she has been in charge of feeding the Big Foot riders. Their family provides horses and tack for some Big Foot riders. There are natural springs along the river. They plant seedlings that use this water. It will help future generations to sustain their way of life.

Mrs. Red Horse shows the general area where the new and old bridge are located. She pointed to the location where the Big Foot ride occurs. During last year's ride, at the first stop, a brown truck with two men with guns showed up and told them to leave the area. The men did not identify themselves. This was in an area that intersects with the proposed pipeline. These men disturbed their prayer.

Mrs. Red Horse stated she believes the pipeline will have an impact future Big Foot rides. Last year, the gates at fences were padlocked shut.

Ms. Kidder cross examines Mrs. Red Horse.

Regarding YST Exhibit 131, Mrs. Red Horse pointed out the approximate location of where the incident with the truck occurred. It occurred about 5 to 6 miles from the proposed diversion point. She indicated they have been removing water from the dam next to Buffalo dam along Highway 34 to repair the road in preparation for the pipeline construction.

If they are not able to ride their current route, the impact on her family and community would be great. Her husband has grandparents buried along the route. It is part of their culture and tradition.

Their subsistence uses have been impacted during drought periods. Fish would be lying along the shore. Their horses could cross the river and the river would only go up to the horses knees. Dry conditions caused them to see less wildlife such as deer.

Mr. Ellison cross examines Mrs. Red Horse.

Mrs. Red Horse marked the approximate location of two springs on YST Exhibit 131. The spring flow can change throughout the year. Sometimes the springs are not running, likely due to drought. These springs ran continuously this last year and are still running. They do not drink the water when the river is low.

Jason Shald cross examines Mrs. Red Horse.

Mrs. Red Horse stated the ceremonial plants are found on undisturbed ground. They do not pull the plants but cut so that they may regrow. The roots are important. When replanted sometimes, they will survive and other times they will not. The plants are used to eat, for prayer and for ceremonies. It is in the public interest for these plants to be protected.

Mr. Moore called Greg Tencer with TransCanada on Application No. 1986-1.

The court reporter administered the oath to Mr. Tencer. Mr. Tencer stated he is the pipeline execution manager for the TransCanada project. He coordinates all the groups to ensure cohesiveness. There are a 100 people working on this project. TransCanada has about 6,000 employees within the United States. He reports to Gary Solsman with TransCanada. He has program managers that report directly to him on various aspects of the project including permitting. Construction managers will report to the program managers. Mr. Tencer went through the chain of command that goes into the various aspects of construction.

The construction will be done by private contractors. The project has been bid but has not been awarded. There will be more than one construction contractor.

Mr. Tencer discussed his education and employment stating he has handled many pipeline projects over his career. He started on the Keystone project in April of 2018.

Mr. Moore showed Exhibit S which is Mr. Tencer's resume. Chairman Hutmacher accepted Exhibit S into the record.

Mr. Tencer stated he has experience with obtaining water permits in California, New Mexico, Texas, Colorado, North Dakota and numerous states. He has not testified in a water permit hearing before. He is familiar with conditions placed on permits and compliance with those conditions. They realize low flows may occur and they need to meter and report water use. This is common practice with other permits. Water use is tracked by an environmental coordinator. He is familiar with the Cheyenne River application. There are two diagrams for the hydrostatic testing and dust suppression set-up.

Mr. Moore presented Exhibit A which is the map of pipeline. Mr. Ellison objects based on relevance in that this does not deal with availability of water or impairment of existing rights. Ms. Kidder objects based on foundation. Mr. Tencer stated the map was prepared by the

engineering consultant. This is common practice. Chairman Hutmacher accepted Exhibit A into the record.

Mr. Tencer described the pipeline route. The green line is the Keystone pipeline. All other pipelines are presently constructed except for the green line which is Keystone pipeline. TransCanada does not own the oil in the pipeline they only transport the oil. None of this pipeline will be located in North Dakota.

Mr. Moore presented Exhibit C which is a SD map of Keystone XL pipeline. The map shows the hydrostatic testing breaks, diversion points and workforce camps. Chairman Hutmacher accepted the exhibit into the record over the objection of Mr. Ellison.

Mr. Tencer stated the counties that the pipeline will pass through in South Dakota. The exhibit also shows the location of pump stations in South Dakota. Mr. Tencer pointed to the location of various workforce camps. A construction spread is a reach that a contractor is assigned to construct the pipeline, there are a number of spreads in South Dakota.

The pipeline will be a 36 inch outside diameter pipeline that will be laid at a minimum of four feet deep. The permanent easement is 40 feet wide. There is a temporary easement of 60 feet for construction purposes. There may be other easements for temporary workspace. This pipeline has been permitted by the Public Utilities Commission (PUC). Mr. Moore shows Mr. Tencer Exhibit F. Mr. Moore offers Exhibit F which is the PUC permit. Chairman Hutmacher accepted Exhibit F into the record.

Mr. Moore stated they are substituting a laminated Exhibit C with the one initially offered and accepted. Mr. Moore offered Exhibit G which is the amended final decision and order. Ms. Mines Bailey said it was previously offered and accepted as DRA Exhibit 314.

Mr. Tencer stated he was aware of the conditions on the final order and generally listed the various aspects that must be complied with. He is to insure those conditions are met.

Mr. Moore offered Exhibit H which is the PUC Final Decision and Order regarding re-certification. Chairman Hutmacher accepted Exhibit H into the record.

Mr. Tencer stated the main organization that oversees construction is known as PHMSA (Pipeline Hazardous Materials Safety Association).

Mr. Moore offer Exhibit Q which is PowerPoint presentation that goes through the pipeline construction process. Mr. Tencer stated he participated in preparation of the presentation which is a general model of pipeline construction. Chairman Hutmacher accepted Exhibit Q into the record. Mr. Tencer went through the PowerPoint presentation.

Mr. Tencer stated his role in reviewing water permit applications is to ensure that it meets the requirements needed for construction of the project. In regard to Exhibit 1, the date it was received by DENR was October 15, 2018. Construction is now planned for the summer of 2020.

He does not know if construction can be completed in one year. The uses of water will occur during the construction up through the hydrostatic testing. They may need to come back for reclamation and dust suppression. After construction is completed, they will not need the use of water anymore. The proposed condition requires the permits to be come before the Board for cancellation once the construction is completed.

The volumes of water needed were determined by engineers familiar with the construction process. They arrived at a final number based on the worst-case scenario. They only will use what water is needed. The amount requested is the maximum amount that may be needed. That entire amount may not used. The application states the uses that will be made of the water. There is a map in the application showing the point of diversion for the Cheyenne River application. It shows where they cross the Cheyenne River. There are two diversion points; one on each bank of the river. The map also shows the location of the hydrostatic directional drilling across the Cheyenne River.

On page 5 of the application, the 2019 construction volumes are set forth. Mr. Tencer described how the amounts of water are calculated for dust suppression, horizontal directional drilling, pump station construction and for hydrostatic testing.

Mr. Tencer was asked about the page in the application which is a diagram of a typical water diversion drawing. Mr. Tencer stated this is a representation for the diversion works for hydrostatic testing. Water needed for hydrostatic testing requires the greatest volume of the requested appropriation. However this is largely “borrowed” water in that the water is returned the water source. Mr. Tencer described the diagram in the application for the diversion of water for dust suppression.

Regarding a page from the administrative record that is the chief engineer’s recommendation, Mr. Tencer stated condition No. 1 states that they must bypass low flows to protect prior rights and domestic uses. The second qualification is regarding annually reporting. They will comply. Qualification No. 3 limiting the annual volume. The final qualification is the reporting requirement when construction ceases, and the permit becomes subject to cancellation.

Mr. Caposella cross examines Mr. Tencer.

Mr. Tencer indicated he is primarily responsible for project management. The environmental group deals with the Corps of Engineers 404 permit. Mr. Tencer does not know the status of the 404 permit. They are required to adhere to the federal code of standard for pipeline construction. The safety culture at TransCanada is to comply with requirements. Mr. Tencer is aware of pipeline spills in South Dakota. They have enhanced construction specifications based on those pipeline spills. An example is heavy equipment being limited from traveling over the pipeline especially during wet conditions.

Regarding Exhibit C, Mr. Tencer testified there will not be a workforce camp in Tripp County. Instead there is an RV only camp contemplated at Vivian. Exhibit C shows the reservation boundaries. The engineer’s that prepared the map placed the boundaries shown.

Mr. Tencer stated TransCanada does not currently have all the federal permits in place for construction. The status of the construction is to start construction in the summer of 2020. There have been delays in the planned construction dates.

Ms. Kidder cross examines Mr. Tencer.

Regarding Exhibit C, Mr. Tencer stated this is an accurate representation of the diversion point from the Cheyenne River. The diversion point is about one mile from the reservation boundary. The pipeline itself is a little less than one mile. It crosses the river at that location. The pipeline is placed below the river by horizontal directional drilling.

Mr. Tencer stated he did not know if it was disclosed regarding the mining tailings in the area. The mining tailings were part of the Homestake mine operation. There was a Superfund site on the Belle Fourche River due to the tailings.

The depth of the horizontal direction drilling below the river will be 78 feet under the lowest point in the river. Mr. Tencer showed on the map, the entrance and exit from the river. The distance is about 1,500 feet from the river bank where it enters and 1,500 feet from where it exits south of the river bank. The map is the diversion location map from the application (Exhibit 1). The pipe will have a curve. It is a 36 inch outside diameter pipeline. At the edge of the river bank, the depth of the pipe will be about 50 feet under the land surface.

Regarding the amount of water used, Mr. Tencer did not calculate those volumes. There is no need for permanent use of water by TransCanada. Worst case scenario is two years to complete the construction. The volumes do not necessarily change.

Looking a map that is Exhibit C, the equipment for the diversion all lays on the surface so there is no disturbance of the soils. The water will be transported for dust control from the pump station by truck. For the hydrostatic testing, water will be transported through the pipeline and will be returned to the river after being filtered.

Mr. Tencer stated the amount of water needed is the worst-case scenario. TransCanada pays him through his company. Mr. Tencer is a salaried employee and is not being further compensated for his testimony today. Mr. Tencer is not an employee of the applicant. Ms. Kidder questioned if he is not an employee of TransCanada how can he insure they will comply with conditions. Mr. Tencer indicated enforcement of any violation would be directly through TransCanada.

Mr. Tencer stated his understanding is that domestic use is the use of water for people, livestock and wildlife. Mr. Tencer indicated the recommendation does not include protection of treaty rights. Mr. Tencer did not investigate what domestic uses are below the diversion point on the river.

Mr. Ellison cross examined Mr. Tencer.

Mr. Tencer stated he is involved in construction management and not operation management. He was involved in the water extraction applications.

The PUC permit exhibit is not a complete exhibit in that it omits Exhibit C. TransCanada stated the exhibit will be supplemented with Exhibit C of the PUC permit since it involves the diversion of water.

To prepare for today's hearing, Mr. Tencer testified he reviewed the applications and the chief engineer's recommendation and some of the engineering documents. He did not look through the 2007 PUC permit for another TransCanada pipeline. He did not review the past permit to look at requirements to improve construction management of this project.

Mr. Tencer stated he did not look at the cultural, biological and environmental studies that were performed and cited in the Application No. 1986-1. He relied on his environmental group. Mr. Tencer stated that on the original 2014 environmental impact statement (EIS), the judge had some issues that are being addressed. The updated EIS will need to be completed prior to construction taking place. Mr. Tencer did not know the length of time to have the final EIS. There are factors that are still unknown. Construction cannot take place until all permits are obtained; both state and federal permits.

Referring to Exhibit F, Mr. Tencer recited the list of potential permits that will need to be obtained.

Mr. Ellison questioned if there is contamination of water and the filter malfunctions, would the water go downstream. Mr. Tencer said that is a possibility, but the filter is a way from the river and the process would be shut down.

Mr. Tencer described what a frack out is. Based on the pressure, if the mud finds a weak spot, it could go downstream but generally they can stop it. He cannot guarantee there will not be frack out.

Regarding page 10 of Exhibit Q, this is a typical pipe yard. Pipe exposed to the elements can be degraded and should be checked after five years. Pieces of pipe are always inspected and recoated if deemed necessary.

Mr. Tencer stated that personnel with TransCanada that have done a fatal flaw analysis on this TransCanada project. The coating on the pipe is intended to prevent corrosion. There is also cathodic protection for back up protection. Mr. Tencer stated he is aware of 15 perennial streams and 129 intermittent streams that will be crossed. Exhibit C to the PUC permit was provided and supplemented Exhibit F. The table on Exhibit F – Exhibit C shows numerous stream crossings.

The application includes a number of maps that shows the pipeline route through South Dakota. The maps use the USGS quadrangle as a back drop and while main watercourses can be seen, smaller watercourses may be difficult to view. Mr. Tencer said the maps were intended to show where the water will be used not to where the pipeline crosses a watercourse.

In response to a question on Exhibit Q, the picture on the first page does not show water in the trench. Mr. Tencer stated it is better for the trench to be dry when the pipe is being installed. Normally, they will pump water out of trench prior to installation of the pipe. On page 19, Exhibit Q, the boxes around the pipe are welding huts to prevent wind when welding is conducted.

Mr. Ellison stated when bentonite gets wet it can get slick and questioned if it also expands. Mr. Tencer stated that is possible. Mr. Tencer is not aware that the Cheyenne River is designated as a warm water fishery. Mr. Tencer stated that drilling mud is mostly comprised of bentonite clay. Mr. Tencer is aware that TransCanada has withdrawn its temporary surface water discharge permit. The pipeline will cross the water pipelines for the Mni Wiconi project.

Mr. Ellison asked Mr. Tencer to read into the record finding of fact No. 68 of Exhibit G. In response to a question, Mr. Tencer stated that corrosion if left unchecked may cause a leak in the pipeline.

Mr. Tencer stated that TransCanada is pursuing water from other sources should the Board not issue enough water for construction purposes. Those other sources are for back up water needs.

In response to a question, Mr. Tencer stated he did not know what it would take to basically provide for real time meter readings that are accessible to the Water Management Board. To his knowledge, he is not aware that TransCanada is paying the state of South Dakota for the use of this water.

Cindy Myers cross examines Mr. Tencer.

Mr. Tencer stated KXL is being built to carry crude oil. It may be different blends of crude oil.

Jason Shald cross examines Mr. Tencer.

Mr. Tencer stated the application proposes to divert at a rate of 6.68 cubic feet of water per second which equates to 3000 gallons per minute. The flow rate will be metered. The meter is sent off to be calibrated once a year. Calibration is conducted in a lab and generally the calibration is to within 1 percent of accuracy.

Mahmud Fital cross examines Mr. Tencer.

Mr. Tencer stated Exhibit A refers to the most revised version of the pipeline route. The pipeline is to convey crude oil from the Hardesty field in Canada. The proposed pipeline will not be constructed within the reservation boundaries.

Board recesses for the day at 4:48 PM.

Chairman Hutmacher reconvened the meeting at 8:31 AM on Thursday, October 31, 2019.

Chairman Hutmacher inquired about potential days for future hearings on these applications. After discussion the Board and parties agreed to conduct the next hearing on December 17, 18, 19 and the 20th if needed.

Elizabeth Lone Eagle calls State Senator Troy Heinert.

The court reporter administered the oath to Senator Heinert. Senator Heinert stated he is from Mission SD where he is a rancher and helps the schools. He has concerns regarding the risk to his District and the state of South Dakota. Senator Heinert has concerns with the water permitting process in that all sides are heard. What occurs five to ten years down the road should be taken into consideration when considering this application. Senator Heinert believes all departments of state government follow the law. SDCL 1-54-5 requires tribal consultation regarding issues that may affect the tribe. He indicated this law has different meaning to different people, but the law is a conversation starter in order to make sure we include tribal issues. Consultation is a process and it is not the same as informing. He is aware of the policies of DENR in processing water permit applications. In dealing with water rights, he believes a treaty land formal consultation should be mandated.

Senator Heinert stated he also has concerns regarding prior Secretary Pirner's testimony on staffing and reporting requirements. He believes the entire DENR is understaffed. They have not increased an FTE in 14 years. More staff would provide for thorough review of water permit applications. He also believes DENR is underfunded which has had an adverse effect on the processing of applications. He also believes staff should be out in the field. In the case of a spill, DENR allows self-reporting. DENR needs to trust but verify.

Senator Heinert further stated he does not have confidence in the report and recommendation on these applications. This is due to the fact that DENR can not verify the data.

Mr. Taylor cross examines Senator Heinert.

Senator Heinert stated he has confidence in the Board's ability to make a decision. He believes the legislature has a place in the discussion on this issue with TransCanada but there is a role for this Board to make decisions.

Mr. Ellison cross examines Senator Heinert.

Senator Heinert stated he has a concern for future generations since the pipeline may be operation for up to 50 years. He is concerned with land and water contamination if a leak occurs. He has brought forth proposed legislation regarding bonding, taxing and water quality. Mr. Ellison showed Senator Heinert Exhibit 310A which is Senate Bill 163 from the 2018 legislation session. Mr. Ellison stated the exhibit goes to the public interest issue. Chairman Hutmacher did not admit the exhibit. Mr. Ellison offered a number of exhibits that were bills introduced during various legislative sessions. Chairman Hutmacher did not accept Exhibits 310B, 310C or 310E.

Senator Heinert stated that consultation is important. He is not aware of any consultation with the Rosebud Sioux Tribe regarding the withdrawal of water from the Cheyenne River, White River or Bad River. He would expect such consultation to occur.

Senator Heinert has concerns that the tribe's Winter Doctrine right have not been taken into consideration. He also has concerns with the effects on various water sources if a spill would occur. A spill will affect the agricultural and tourism industry and therefore the economy of South Dakota.

Self-reporting allows the company to do its own monitoring. Senator Heinert stated his concern is based on his knowledge of past spills by this company. He believes the issuance of these permits has the potential to change South Dakota's economy due the risk of this pipeline. Therefore, he does not believe it is in the public interest to issue the permits from surface water or groundwater for this project. Senator Heinert further stated most of the construction workers will be from out of state.

Ms. Kidder cross examines Senator Heinert.

Ms. Kidder provided Senator Heinert Exhibit C to which he indicated he is generally aware of where tribal boundaries are located. Senator Heinert pointed to the approximate location of where he lives. His family has in the area before the allotment act which dates back to the 1800's. It is part of the Rosebud reservation. He was born into ranching. His water sources are well water and water from the Mni Wiconi rural water system. If you don't have water, you have to move your livestock. Hauling water is not an option. If you can't get water to your livestock, a rancher has to sell the animals.

The senate bills introduced by Senator Heinert did not pass. Senator Heinert is aware of laws involving oil pipelines and understands an oil pipeline is required to post a bond. South Dakota law does not allow to charge an oil pipeline for the use of water. South Dakota does not have laws that require posting money for tribes to deal with pipeline issues.

There are subsistence uses of water on the Rosebud reservation such as ranching, farming, hunting and tourism.

The state of South Dakota has an obligation to recognize the Ft. Laramie treaty. There is a resolution that states South Dakota recognize the legitimacy of the treaty. The tribes should have unabridged right to the use of land and water from within the treaty boundaries. It is engrained in him to never give up those rights.

Jason Shald cross examines Senator Heinert.

Senator Heinert stated this hearing provides the people of South Dakota the ability to express their concerns with the applications. The use of eminent domain has not always had a good outcome. Senator Heinert stated the state does have a small clean-up fund in the event of a spill but in no way does that fund have enough money to deal with a spill of any magnitude.

Mahmud Fitol cross examines Senator Heinert.

Senator Heinert stated trust land is land held by the US Government for the tribes. Some trust land is off reservation land. The uses include subsistence living on the trust lands. If the trust land is impacted there needs to be consultation. He indicated the pipeline does go through trust land.

Ms. Lone Eagle conducted redirect of Senator Heinert.

Senator Heinert again stated he is a rancher and a citizen of South Dakota. As a citizen and a tribal member his concerns are as validate as anyone else's. He lives under the jurisdiction of the tribe, state and federal government.

Legislative bills, even those that are not passed, are a public record. Mrs. Lone Eagle renewed her offer of Exhibits 310A, 310B, 310C and 310E. Chairman Hutmacher did not accept the exhibits.

The treaty area begins at the east bank of the Missouri River. Senator Heinert showed the east bank on Missouri River on Exhibit C.

Mr. Ellison puts in Exhibit 310A, 310B, 310C and 310E as a proffer.

Ms. Kidder calls Dr. Jeffery Short to testify.

The court report administered the oath to Dr. Short. Dr. Short stated he is an independent consultant on oil spills. Dr. Short explained his education experience including his bachelor's degree, master's degree and Ph.D. His first job involved various species sensitivity to oil spills. He was an employee of a federal agency as a chemist. He was in that position for 31 years and work was related indirectly to oil spills. He retired in 2008 and then worked for a marine conservation organization (Ocean Ana) before being recruited for plaintiffs in an oil spill known as the deep-water horizon spill. He has been an expert witness involving oil spills.

Ms. Kidder approached witness with Exhibit 121 which is his curriculum vitae. Ms. Kidder offer Exhibit 121. Chairman Hutmacher accepted Exhibit 121 into the record.

Ms. Kidder discussed the various cases that Dr. Short has worked. He had filed a declaration with the ninth judicial court regarding this Keystone pipeline project. Ms. Kidder requests Dr. Short be identified as an expert. Mr. Taylor does not object to him being an expert.

Mr. Naasz asked if the use of water by a worker at a work camp can cause an oil spill. Dr. Short stated he did not know if the worker was negligent in what he is doing. Chairman Hutmacher accepted Dr. Short as an expert.

Ms. Kidder provided Dr. Short Exhibit 115 which is the declaration with the ninth judicial court of Dr. Jeffrey Short in the matter of Indigenous Env't Network v. US Department of State. Mr. Taylor and Mr. Naasz objected based on relevance. Chairman Hutmacher stated he will provide Ms. Kidder an opportunity to show relevance.

Ms. Kidder went through what information Dr. Short looked at in preparing the declaration. Ms. Kidder stated based on this information the exhibit is relevant. Mr. Taylor stated he was not objecting to Dr. Short, but objecting to the declaration. Chairman Hutmacher sustained the objection and the exhibit will not be allowed. Chairman Hutmacher reversed and accepted Exhibit 115 into the record.

Dr. Short stated he reached the following conclusions in his declaration: 1) should a leak reach a flowing water source it would contaminate, 2) it also would impact wetlands; and 3) impact groundwater within ½ mile of the spill.

Dr. Short is aware of the four criteria for issuance of a permit in South Dakota. The proposed water use is to support construction of the pipeline. The pipeline capacity is 830,000 barrels a day. The pipeline is a 36 inch diameter pipeline. The portion that is diluted bitumen from Canada in the pipeline is about 80 percent. Regarding the pipeline capacity, 100,000 barrels would be from the Bakken. Diluted bitumen is different than crude oil in that bitumen is a complex viscous compound. It is basically gasoline mixed with tar. Clean-up of bitumen has a higher ignition risk than crude oil, so it is a safety hazard. It is also an inhalation risk. Bitumen will generally sink in water or become submerged in the water column. It is much more difficult to deal with a spill of bitumen than crude oil. A spill in winter will cause the viscosity to sky rock and the bitumen will congeal in the cold temperatures potentially making the clean-up easier.

Ms. Kidder approached Dr. Short with Exhibit 117 which is a document of spills of diluted bitumen from pipelines, a comparative study of environmental fate, effects, and response. Dr. Short testified regarding the report that the findings of the study regarding the difference between a spill of bitumen or crude oil warrant modification to spill response. Ms. Kidder offers Exhibit 117. Mr. Taylor objected as did Ms. Mines Bailey. Ms. Kidder stated this is a government document and is an exception to hearsay in that it is a government document. Chairman Hutmacher accepted Exhibit 117 into the record.

Dr. Short described the environmental risk of a spill from dilbit. Dilbit will ignite like gasoline and has an inhalation hazard to clean up workers. It is a contact hazard to humans, animals and vegetation since it has carcinogens. There is a spectrum of chemicals in dilbit that can cause toxicity issues.

Impacts of an oil spill can change over time. A progression of events occurs when there is an oil spill. Dilbit will spread out to a thin layer. In the case of land, it can percolate down into the soils. After a period of time, microbial activity occurs where the viscosity will increase or it can become photo oxidized by sunlight. The impacts of this are not fully known. It can also emulsify in water due to wave action. This is commonly known as oil weathering. If oil

percolating in the ground reaches the water table, the oil will travel across the surface gradient and cause contamination. A single spill event can contaminate up to a ½ square of the water table. Dr. Short described an oil spill event that occurred in Michigan.

Ms. Kidder showed Dr. Short Exhibit C. Dr. Short testified there is a pipeline crossing on the Cheyenne River about 40 miles downstream on the eastern edge of Ziebach County which would be within the Cheyenne River Reservation. Looking to the Bad River diversion point, there is reservation land east of this site. Finally, regarding the White River site, there is reservation land within 40 miles.

Dr. Short stated the Pegasus spill in Arkansas which was a spill of 140,000 gallons of bitumen caused evacuation of homes and limitation on air space. Officials excluded the public and press from what was going on which resulted in concerns. The long-term effects of the dilbit was limited in this instance by a good response time. However, there was heavy equipment damage. Response time to a spill is critical. Dr. Short is not aware of a spill response plan for this project.

Ms Kidder questioned whether mine tailings in the water course could limit a spill response. For instance could the presence of tailings limit the use of dredging equipment? Dr. Short stated he couldn't fully answer that question. When you dredge you physically remove sediments from where are digging them. Removed sediment goes to storage and transported to a location to detoxify.

Ms. Kidder provides Exhibit 119 to Dr. Short. This exhibit is a draft damage assessment and restoration plan/environmental assessment for the July 25–26, 2010 Enbridge Line 6B oil discharges near Marshall MI. Dr. Short stated oil spills can range to minimal to catastrophic. Pipeline breaks can easily become uncontrollable if there is not a proper response. Oil spills can cause social effects such as suicide, alcoholism and divorce. He has witnessed this personally. Subsistence activities can be severely impacted by an oil spill.

Matt Naasz representing Wink Cattle Company and Tom and Lori Wilson cross examined Dr. Short.

Dr. Short stated he was aware of the applications filed by Wink and Wilson. These are amendments to existing permits to just allow water use as a backup water source for workforce camps. Dr. Short does not think it is his position to opine on public interest. The use of the water at the workforce camp becomes part of construction of the pipeline.

Mr. Taylor representing TransCanada cross examines Dr. Short.

Dr. Short stated he was retained by the Yankton Sioux Tribe to testify today. He is to be paid \$2,000 plus any time he spends. He traveled from Juno Alaska to testify. Dr. Short testified he has not inspected any of the proposed diversion points. He is not a hydrologist but has experience with the field of hydrology. His testimony is not to address availability or impairment of downstream water rights during construction. His testimony focusses on the public interest criteria. The intention of the water use is for dust control, hydrostatic testing and

pump station construction. Use of water in advance for construction prior to pipeline operation will not result in an oil spill. Dr. Short is not aware how hydrostatic testing works. Hydrostatic testing in advance of commissioning will not result in an oil spill. The same is true of pump station construction. Dr. Short stated the only presumable way they could be an oil spill is after commissioning.

Mr. Caposella cross examined Dr. Short.

Dr. Short testified he has authored at least 68 publications. In the Exxon Valdez spill, there were effects on subsistence activities. In the Kalamazoo spill, there were evacuations of about 40 homes. Dr. Short described the aquatic food chain. Response time is an important factor when there is a spill.

Tracy Zephier of Cheyenne River Sioux Tribe requests that Michael Novotny speak on behalf of the tribe.

Mr. Novotny cross examined Dr. Short.

The cross examination focused on the effects of oil spills to the Cheyenne River Reservation.

Mahmud Fitol cross examined Dr. Short.

The benzene component in the Kalamazoo spill was found locally but not 40 miles downstream. The distance benzene will travel is determined based on wind direction and speed. In response to a question, Dr. Short testified that nearly all the sand is removed from the bitumen prior to transport.

Julie Santella cross examines Dr. Short.

Ms. Santella is a pro se intervenor in the Wilson application. Dr. Short described what is a cumulative impact. Dr. Short stated given the current state of the Cheyenne River, an oil spill could cause an additional impact.

Jason Shald cross examines Dr. Short.

Dr. Short stated the effects of benzene on multi cell organisms is not clear. Diluted bitumen would have embryo toxicity. Benzene is acutely toxic to fish.

Tonia Stands cross examines Dr. Short.

Ms. Stands is an intervenor in the Wilson application.

Ms. Stands questioned what happens to the tar sands oil when it gets heated. Dr. Short stated it depends on its extent of weathering. It initially will emit hydrocarbons into the atmosphere. It will then become more fluid when heated up. Its density varies with temperature which can

cause it to float again. Ms. Stands inquired how heated bitumen in a sweat lodge can affect the human body. Dr. Short stated he was unable to answer the question.

Mr. Ellison cross examined Dr. Short.

Dr. Short testified that a pipeline spill very well could impact fishery and plant life as well. Benzene has a toxicity of 100 parts per million.

In the area of Prince William Sound, there is an organization related to the aftermath of the spill called Regional Citizen Advisor Council that has a more extensive monitoring program. Dr. Short stated the purpose of monitoring is to document the regional background contamination signature prior to pollution vent.

Regarding the impacts of a dilbit spill, Mr. Ellison questioned whether the impact to ground water will be short term or long term. Dr. Short answered maybe or maybe not. Flow from a dilbit that floats on the wetlands would have more impacts.

There has not been studies done on the effect of ingestion of dilbit by deer. There has been a study done on other mammals. If ingested, too much oil inflames the digestive tract.

Mr. Ellison questioned if US regulations were inadequate. Dr. Short stated there have been several spills where there has been inadequate money for response or mediation. There is a federal spill fund that has a billion dollar limit and needs more funding.

Dr. Short stated in his experience it may still take a while to detect a small leak.

Mr. Ellison asked Dr. Short to look at Exhibit 1, which is the TransCanada Application No. 1986-1, for extraction of water in the Cheyenne River, the ninth page is a map. If the spill came out of horizontal directional drill holes, Dr. Short testified the dil bit will follow the drainage into the river?

Ms. Kidder conducted redirect of Dr. Short.

Dr. Short stated he has worked for 20 years in the remediation of spills and 30 years in dealing with oil spills. In his expert opinion, there are negative impacts to an oil spill. Dr. Short listed the number of areas he was an expert in.

Ms. Kidder questioned if in his expert opinion based on his career and everything he had studied, are there potentially negative impacts to an oil spill and to a waterway from an HDD drill under a waterway. Mr. Short stated yes.

The conditions placed in the EIS regards the construction phase and therefore are not sufficient to protect during operation of the pipeline.

Water Management Board
October 29 - 31 2019, Meeting Minutes

Motion by Tim Bjork, seconded by Leo Holzbauer that the meeting be adjourned. Motion carried unanimously by roll call vote.

Chairman Hutmacher declared the meeting adjourned at approximately 4:47 PM.

A court reporter was present, and a transcript of the hearing may be obtained by contacting Carla Bachand, PO Box 903, Pierre, SD 57501, and (605) 224-7611.

Approved the _____ day of December, 2019

Water Management Board

Witness

DRAFT